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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/943,787	08/31/2001	Yuichiro Itai	0941.65788	1048

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EXAMINER

RESAN, STEVAN A

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 10/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/943,787

Applicant(s)

ITAI ET AL.

Examiner

Stevan A. Resan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) 3, 4 and 7-10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 5 and 6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1,2,5,6 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 04-319526 Lin et al or JP 09-052707 Ishikawa et al in view of either JP 01-296429 Kazufumi et al or JP 04 214221 Ueda et al. for the reasons of record.
3. Applicant's arguments filed 14 July 2003 have been fully considered but they are not persuasive.

Applicants have requested that the examiner supply references in support of any official notice relied upon. The examiner has complied and some references are cited below.

Applicants also argue that the examiner has used impermissible hindsight in applying the references. In response the examiner points out that the references clearly show that the process step of washing in a solvent to remove unreacted molecules and unbonded reaction products of a UV radiation process step has been taught by several of the references (Lin et al, Ishikawa et al.) . It appears, therefore, that applicants are arguing that repeating the application of lubricant followed by irradiation and washing several times is unobvious in light of the references applied.

However, there was ample motivation in the applied references to repeat the process based upon the recognition in the art that lubricant layer thickness is a results effective variable and that it is beneficial to provide several monolayers of bonded lubricant to a protective layer in order to increase durability by forming a defined three

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dimensional structure. This has been shown by the teachings of Kazufumi et al and Ueda et al.

In addition a process of forming several monolayers was known in the art at the time of the invention (See Schmidt previously cited and Shirahata et al newly cited).

Finally with reference to retaining a washing step between each step of applying and irradiation the examiner has shown motivation in the need to wash away unbonded lubricant since it would disturb a three dimensional orderly structure such as shown by Kazufumi et al (or Ogawa et al newly cited). Motivation is also present in the need to eliminate reaction products of a process which irradiates the lubricant (shown by Ohnuki et al previously cited, who teach that low molecular weight species are detrimental to lubricant performance).

Also note that repeating all three process steps were old in the art as demonstrated by Afzali-Ardakani et al as cited below.

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and are cited in support of Official Notice for teachings well known in the magnetic recording art at the time of the invention.

Afzali-Ardakani et al US 4446193 is cited for teaching a process comprising applying a lubricant onto the surface of a magnetic recording medium, irradiating with ultraviolet radiation, washing with solvent and repeating the process. (See Col 2 lines 4-7, 11-15, 18-22, 50-55).

Ogawa US 4761316 is cited for teaching a process comprising applying a silane compound to a magnetic recording layer, irradiating it with ultraviolet radiation,

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immersing in a solvent (THF containing diborane), and repeating the process multiple times until a desired thickness is obtained. (See Col 3 lines 26-51, 61-66; Col 4 lines 52-58).

Shirahata et al US 4087582 is cited for teaching a process comprising applying a monomolecular layer of a lubricant on the surface of a magnetic recording medium and repeating the process to increase the thickness. Shirahata teaches that the number of layers is a results effective variable which is optimized so as to maximize durability without causing spacing loss.

5. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


6. This application contains claims 3,4 and 7-10 drawn to an invention nonelected with traverse in Paper No. 5. A complete reply to the final rejection must include cancelation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stevan A. Resan whose telephone number is (703) 308-4287. The examiner can normally be reached on Tues-Fri from 7:30AM to 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau, can be reached on (703) 308-2367.

The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.


STEVAN A. RESAN
PRIMARY EXAMINER